

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086**  
**(For candidates admitted from the academic year 2019-20 & thereafter)**

**B.Sc. DEGREE EXAMINATION, APRIL 2024**  
**BRANCH IV - CHEMISTRY**  
**SIXTH SEMESTER**

**COURSE : MAJOR-ELECTIVE**  
**PAPER : FOOD CHEMISTRY**  
**SUBJECT CODE : 19CH/ME/FC45**  
**TIME : 3 HOURS** **MAX. MARKS : 100**

**SECTION – A**  
**ANSWER ALL THE QUESTIONS** **(30x1=30)**

**I. Choose the correct answer:**

1. Which is not a form of water in foods.  
a. free                      b. bound                      c. entrapped                      d. vapour
2. .... pigment is present in beetroots.  
a. carotenoids              b. chlorophylls              c. betalains                      d. none of the above
3. 1g of carbohydrates provides ..... kcal  
a. 2                          b. 4                          c. 6                          d. 9
4. FPO stands for  
a. Food products order                      b. fruit product order  
c. First prevention order                      d. Food pollution order
5. Identify the non-nutritive sweeteners  
a. acesulfame              b. saccharin                      c. sucralose                      b. all of the above
6. Pectin is a ..... fiber present in fruits.  
a. gel                          b. soluble                      c. insoluble                      d. none of the above
7. Symptoms of iron deficiency  
a. Fatigue                      b. breathlessness              c. spoon shaped nails              d. all the above
8. Mono sodium glutamate is a ..... Agent  
a. bleaching                      b. colouring                      c. flavouring                      d. none of the above
9. What is the function of fat?  
a. build muscles              b. protective food              c. provide energy                      d. none of the above
10. What are the attributes in sensory evaluation?  
a. Taste and smell              b. smell and touch              c. sight and hearing              d. all the above

**II. Fill in the blanks:**

11. A mixture of two or more liquids that are usually immiscible is called .....
12. Vitamin D and ..... are essential for healthy bones.
13. .... are added to increase the shelf life of foods.
14. .... is an example for high biological value proteins.
15. .... and ..... are the two types of dietary fiber.
16. AGMARK stands for Agriculture .....
17. ....act provides quick access to redressal of consumer grievances.
18. .... evaluation of food involves physical and chemical techniques.
19. Chemical name for table sugar is.....
20. .... is a type of severe PEM.

**III. Match the following:**

- |               |                |
|---------------|----------------|
| 21. Calcium   | - Beri beri    |
| 22. Iodine    | - Scurvy       |
| 23. Iron      | - Goitre       |
| 24. Thiamin   | - osteoporosis |
| 25. Vitamin C | - Anaemia      |

**IV. Define:**

26. Hydrocolloids
27. Wheat proteins.
28. Respiratory quotient.
29. Misbranded food.
30. Classify food flavours.

**SECTION – B****ANSWER ANY FIVE QUESTIONS:****(5x6=30)**

31. Explain Maillard reaction.
32. What is water activity? Differentiate between water activity and water content of food.
33. Mention the industrial applications of pigments in food.
34. Discuss Specific Dynamic action of foods and what are the factors affecting BMR.
35. Explain the sources ,function and deficiency diseases of Vitamin C and Iron
36. Explain the role of HACCP in quality control.
37. Differentiate sensory and objective evaluation of food.

**SECTION – C****ANSWER ANY TWO QUESTIONS:****(2x20=40)**

38. a) Discuss the role of i. stabilizers ii. Coloring agents, antioxidants and flavouring agents as food additives. Mention the advantages and disadvantages of food additives.  
b) Explain the salient features of Prevention of Food Adulteration Act and Consumer Protection Act (8+12)
39. a) Highlight the chemical changes that take place in proteins during food processing?  
b) What are dietary fats? Discuss the characteristics of saturated and unsaturated fats (10+10)
40. a) Explain the role and initiatives of FSSAI in food safety.  
b) Enumerate the tips to consumers for buying safe food  
c) Discuss the effect of cooking on vitamins and minerals. (8+6+6)

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